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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,493	03/07/2002	Yuusuke Takamoto	381NT/44743TCO	2343

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 06/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/091,493

Applicant(s)
Takamoto et al.

Examiner
Vanaman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Mar 7, 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/166,570.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d). The certified copy has been filed in parent Application No. 09/166570, filed on Oct. 6, 1998, now abandoned.

References Considered in the Parent Application

2. Certain foreign references cited and considered in the parent application are temporarily unavailable to the examiner, and have not been considered herein. These references will be considered as of the time they become available.

Drawings

3. The drawings are objected to for the following informalities: in figure 1, "ACCELEPATION" should be --ACCELERATION--; in figure 3, step 309, "PRIVENTING" should be --PREVENTING-- and "BACK WARD" should be --BACKWARD--; in figure 10, it appears as though step "1008" should be labeled --1006-- for consistency with the specification. Correction is required.

Specification

4. Applicant has provided a substitute specification in the instant application. This substitute specification has not been entered because, while two copies have been provided, neither copy is without marked up changes. Note the 'clean' copy at page 12, last four lines, page 13, line 25, page 14, lines 13-16, page 24, line 5, etc.
5. The lengthy specification as filed has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. There appear to be numerous minor grammatical errors in the specification. For example: on page 1, line 21,

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“breaking” should be --braking--; on page 2, line 7, “moving downward of the vehicle” is informal; on page 2, line 9, “petal” should be --pedal--; on page 2, lines 24-25, “from occurring substantial local heat generation” is informal. This is an exemplary listing only.

6. The title of the parent application and of the declaration copy filed with the instant application ends with the word “Position”, while applicant’s current papers indicate a similar title which replaces that last word with “Distance”. It is not clear whether or not applicant desires to change the title of the application. For the purpose of this Office Action, it is assumed that the correct last word of the title should be “Position”.

7. The abstract of the disclosure is objected to because it is too long. Correction is required. See MPEP § 608.01(b). Please note 37 CFR 1.72 (b):

(b) A brief abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading "Abstract" or "Abstract of the Disclosure." The abstract in an application filed under 35 U.S.C. 111 may not exceed 150 words in length. The purpose of the abstract is to enable the United States Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract will not be used for interpreting the scope of the claims.

Claim Objections

8. Claims 4 and 10 are objected to because of the following informalities: in claim 4, line 4, “after a brake pedal is stepped off” is informal; similarly in claim 10, lines 2-3 “when the brake pedal is stepped off and again stepped on” is informal. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Some example of confusing or indefinite language are cited as follows: in claims 1, 2, 4, 8, and 9, lines 2-3 (each claim) the recitation of

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holding a vehicle at a "stopping position" in association with the description of the motor "for driving the vehicle body to run" appears contradictory and confusing; in claim 1, lines 4-5, the phrase "operated quantity of brake operation" appears redundant and is confusing; in claim 3, lines 3-6 it is unclear whether or not applicant is attempting to incorporate method limitations in an apparatus claim; in claim 5, the recitation associated with the time period is indefinite in that it appears to require limitations associated with the driver; it is unclear whether or not a driver is required in order to define applicant's invention, in claim 6, lines 2-3; claim 7, lines 1-3 and claim 11, lines 3-6, it is unclear whether or not applicant is attempting to incorporate method limitations into an apparatus claim. In claim 10, lines 6 and 9, it is not entirely clear what is meant by "downward motion". This is an exemplary listing.

Each and every claim should be carefully reviewed and revised for clarity under 35 USC §112, second paragraph.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 4, 5, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Takamoto et al. (US 5,467,275). Takamoto et al. teach an electric vehicle having a body (1) and a motor (3) which drives vehicle wheels and which may further be used to hold the vehicle in a stopped position (col. 1, lines 59-63) even when pressure on a brake pedal is released, and having a first means (314/315) for calculating a torque (τ_0) which corresponds to a brake operation quantity (b^*) measured by a depression of the brake pedal (X_b) and a second means (311/313) which provides a positional control and torque instruction (τ_p) which is fed to the motor to maintain the stopping position, wherein for a preset period corresponding to the time between an

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operator removing pressure from a brake pedal and applying pressure to an accelerator pedal, the constant positional control remains active (while Sp=ON; note col. 5, lines 21-27), and further where an option is provided such that under operation of a switch (913) the vehicle is allowed to move a distance from the held position and again stopped (note col. 12, lines 7-18).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto et al. Takamoto et al. teach an electric vehicle having a body and a motor which drives vehicle wheels and which may further be used to hold the vehicle in a stopped position even when pressure on a brake pedal is released, and having a first means for calculating a torque which corresponds to a brake operation quantity measured by a depression of the brake pedal and a second means which provides a positional control and torque instruction which is fed to the motor to maintain the stopping position, wherein for a preset period corresponding to the time between an operator removing pressure from a brake pedal and applying pressure to an accelerator pedal, the constant positional control remains active, and further where an option is provided such that under operation of a switch the vehicle is allowed to move a measured distance from the held position and again stopped. The reference of Takamoto et al. fails to teach the operation of a switch which allows the motion of the vehicle through a measured distance as associated with the application of pressure to the brake pedal, or the removal and subsequent application of pressure to the brake pedal.

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Hands-free control of vehicle functions aside from steering is generally well known, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the actuation of the measured distance moving function in association with the vehicle brake pedal, active under the condition that the positional control mode is in operation (i.e., only when Sp=ON), to allow control of this function without the need for the driver to remove his or her hands from the steering wheel.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto in view of Hotta (US 5,934,398, filed 08/1996). The reference of Takamoto et al. is discussed above and fails to teach the holding torque applied by the motor to hold the vehicle position as being reduced after a time period. Hotta teaches a vehicle motor control system for driving a motor (11) which determines a stopped state of the motor (71), for example while holding on a hill (col. 5, lines 38-52) and calculates a time period (72, 73) after which the current supplied to the motor is decreased (61) for preventing degradation of or damage to the switching transistors (21-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a timer and motor current (and thus motor torque) limiting device as taught by Hotta to the vehicle of Takamoto et al. for the purpose of preventing damage to the motor controller of Takamoto et al., for example while holding a constant position for a lengthy time period.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto as modified by Hotta as applied to claim 6 above, and further in view of Takahashi et al. (US 6,006,144, filed 08/1996). The references of Takamoto et al. and Hotta are discussed above and fail to teach the provision of an alarm for signaling the motor torque decrease. Takahashi et al. teach a vehicle control system provided with an alarm (10) for indicating an unanticipated condition associated with the vehicle driving condition. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an alarm as taught by Takahashi et

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al. to the vehicle of Takamoto et al. as modified by Hotta for the purpose of alerting the user to the decrease in motor torque, in order to allow the user to activate another braking system (such as a friction brake) to prevent unanticipated vehicle motion.

16. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takamoto et al. in view of Hotta and Siepker (US 5,916,062, filed 07/1997). The references of Takamoto et al. and Hotta are discussed above and fail to teach a hydraulic brake pressure device for holding the vehicle in a stopped position upon the decrease of holding torque delivered by the motor. Siepker teaches a hill-holding device which determines a braking pressure required to hold a vehicle in a stopped position and applies a corresponding braking force through a vehicle's existing hydraulic braking system (note col. 1, lines 54-58; col. 2, lines 19-28) by an independent actuating element separate from the user-operated brake pedal circuit. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an independent actuator as taught by Siepker for actuating an existing friction braking system of the vehicle of Takamoto et al. as modified by Hotta, the independent actuator responsive to the operation of the current limiting device as taught by Hotta, for the purpose of providing a braking force from a source separate from the motor, such that during a reduction of motor torque due to overheating of the control transistors, the vehicle may remain stopped without user intervention, rendering the holding process transparent to the operator.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yasunobu et al. (US 5,018,689), Kusano et al. (US 5,446,351), Bursteinas et al. (US 5,484,044), Yoshii et al. (US 5,457,363), Tokushima et al. (US 5,690,580), Takamoto et al. (US 5,726,890), Ito et al. (US 5,757,153), Huh (US 5,919,243, filed 12/1996) and Onishi (JP 4-5-338999) teach vehicle systems of pertinence.

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18. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 3618.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is (703) 308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, DC 20231

or faxed to :

(703) 305-3597 or 305-7687 (for formal communications intended for entry;
informal or draft communications may be faxed to the same number but should be
clearly labeled "UNOFFICIAL" or "DRAFT")

F. VANAMAN
Primary Examiner
Art Unit 3618

F. Vanaman
June 5, 2002



4/5/02